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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/854,487	05/15/2001	Chun Hung Lin	4459-018A	8454

7590

05/22/2003

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EXAMINER

WILLIAMS, ALEXANDER O

ART UNIT

PAPER NUMBER

2826

DATE MAILED: 05/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/854,487

Applicant(s)

LIN

Examiner

Alexander O Williams

Art Unit

2826

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 March 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 4-7, 11-17 and 19-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4-7, 11-17 and 19-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

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Serial Number: 09/854487 Attorney's Docket #: 4459-018A

Filing Date: 5/15/01;

Applicant: Lin

Examiner: Alexander Williams

Applicant's Amendment In Paper # 9, filed 3/17/03, has been acknowledged.

Claims 1-3, 8-10, 18 and 23 have been cancelled.

Claims 4 to 7, 12 to 17, 19 to 21, 23 and 24 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 4, it is unclear and confusing to what is meant by "a plurality of connection pads arranged at the periphery of the die pad." Should this be at the periphery of the package?

In claim 11, it is unclear and confusing to what is meant by "a plurality of connection pads arranged at the periphery of the semiconductor chip." Should this be at the periphery of the package?

Any of claims 4 to 7, 12 to 17, 19 to 21, 23 and 24 not specifically addressed above are rejected as being dependent on one or more of the claims which have been specifically objected to above.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 11 to 14 and 19 to 21, insofar as they can be understood, are rejected under 35 U.S.C. § 103(a) as being unpatentable over of Kweon et al. (U.S. Patent # 5,900,676) in view of Fjestad et al. (U.S. Patent # 6,294,830 B1).

For example, in claim 11, Kweon et al. discloses (figures 1 to 45) specifically **figure 15** show a low-pin-count package comprising: a semiconductor chip **110**; a plurality of connection pads **24** arranged at the periphery of the semiconductor chip; a first metal coating **40** on the upper surface of the connection pads; the semiconductor chip **110** having a plurality of bonding pads electrically coupled to the connection pads;; a package body **140** formed over the semiconductor chip and the connection pads in a manner that a portion of the die pad and a portion of each connection pad extend outward from the bottom of the package body; and a second metal coating **150** in the lower surface of the die pad and the connection pads, wherein each of the connection pads has a first portion show a package body formed over the semiconductor chip and the connection pads in a manner that a portion of the die pad and a portion of each connection pad extend outward from the bottom of the package body. Kweon et al. Fail to explicitly show the connection pads having a concave profile.

Fjestad is cited for showing a microelectronic assembly with conductive terminals. Specifically, Fjestad (figures 5A to 5J) specifically figure 5H discloses the connection pads having a concave profile for the purpose of improvements in interconnection technology.

Therefore, it would have been obvious to one of ordinary skill in the art to use Fjestad's concave portion pads to modify Kweon et al.'s connection pads for the purpose of improvements in interconnection technology.

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Claims 4 to 7 and 15 to 17 are would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

## Response

Applicant's arguments filed 3/17/03 have been fully considered, but are moot in view of the new grounds of rejections detailed above.

The insertion of Applicant's additional claimed language, for example, "in claim 4 and 11" cause for further search and consideration to make this action final.

Applicant's amendment necessitated the new grounds of rejection. Accordingly, **THIS ACTION IS MADE FINAL**. See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

The listed references are cited as of interest to this application, but not applied at this time.

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Field of Search	Date
U.S. Class and subclass: 257/666,698,696,692,693,684,676,676,712,713,717,729, 796,784,786,787	12/12/02 5/21/03
Other Documentation: foreign patents and literature in 257/666,698,696,692,693,684,676,676,712,713,717,729, 796,784,786,787	12/12/02 5/21/03
Electronic data base(s): U.S. Patents EAST	12/12/02 5/21/03

***Papers related to this application may be submitted to Technology Center 2800 by facsimile transmission. Papers should be faxed to Technology Center 2800 via the Technology Center 2800 Fax center located in Crystal Plaza 4-5B15. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Technology Center 2800 Fax Center number is (703) 308-7722 or 24. Only Papers related to Technology Center 2800 APPLICATIONS SHOULD BE FAXED to the GROUP 2800 FAX CENTER.***

Any inquiry concerning this communication or any earlier communication from the examiner should be directed to ***Examiner Alexander Williams*** whose telephone number is **(703) 308-4863**.

Any inquiry of a general nature or relating to the status of this application should be directed to the ***Technology Center 2800 receptionist*** whose telephone number is **(703) 308-0956**.

5/21/03



Primary Examiner  
Alexander O. Williams